Momentum Lab

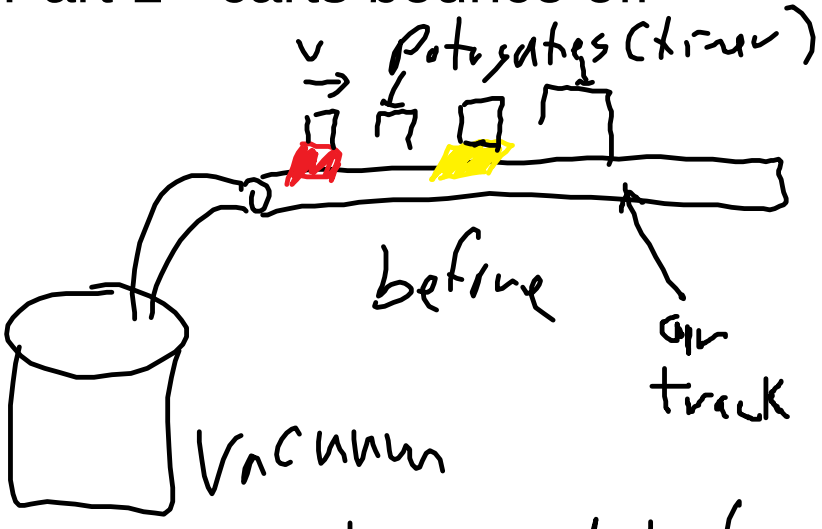
Refer to explosions lab sheet

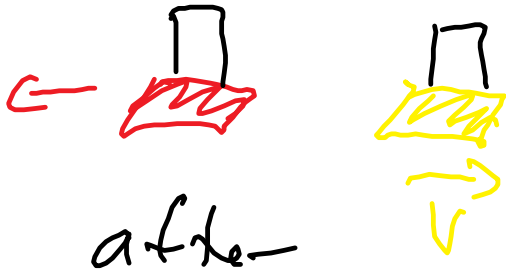
Air Track Demo:

Carts riding on a cushion of air have little friction

Red cart: mass: 41.59g Length of card: 5.9cm
Gold cart: mass: 84.34g Length of card: 8.3cm

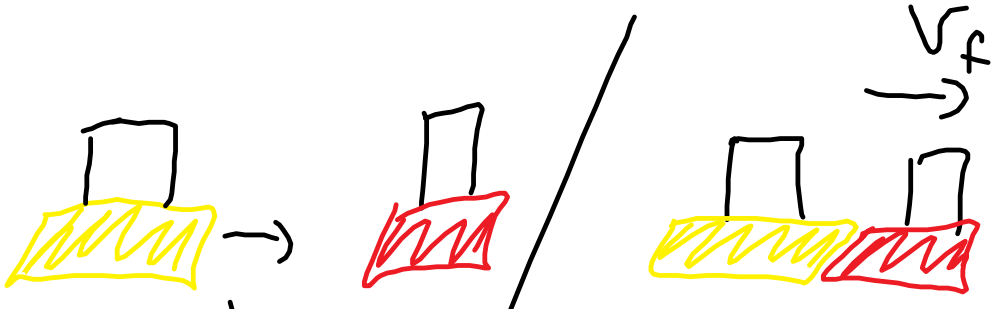
Part 1 - carts bounce off

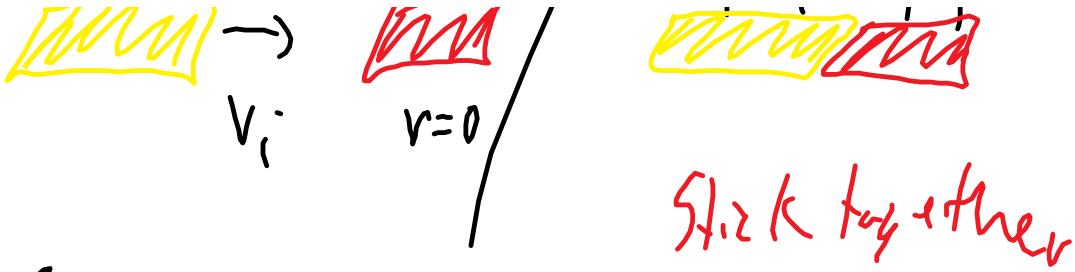




time red before: 0.0806 s
time red after (bouncing back) 0.3003 s
time gold after: 0.1487 s

Part 2:





time of gold before: 0.1305s

time of red after: 0.1363s

time of gold after: 0.1987s

Calculate p_{ti} and p_{tf} for both collisions

p = mv = md/t d= length of the card

eg. p red cart before =
41.59gx5.9cm/0.0808s =
41.59x5.9/0.0808=3,036.8936 gcm/s
or 3.0 kg cm/s or
0.030 kgm/s
don't forget , red after is negative
don't forget quiz next class
be ready for baseball question and lab question